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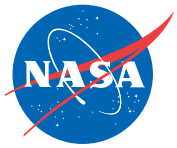

GEOSAT Follow-On (GFO) Altimeter Document Series

Volume 5

GFO Radar Altimeter Processing at Wallops Flight Facility

Version 1.0

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Section 1

Introduction

1.1 Purpose

This document provides a detailed description of GEOSAT Follow-On (GFO) Radar Altimeter data processing at NASA Goddard Space Flight Center's Wallops Flight Facility (WFF).

1.2 Definition of Data

The GFO altimeter sensor data is downloaded from spacecraft memory several times per day to ground system remote sites, where raw telemetry data files containing the payload science and engineering data are constructed. The data files are then transferred to the Navy's Payload Operations Center (POC), one data file per DSU dump. Integral to the data files nomenclature is the file identifier of data and time, YYDOY_HH_MM_SS, signifying the beginning time of that data. These data files, segmented by date and time, are classified as segments. There can be any number from two to six segments of data per day.

The Navy's Altimetry Data Fusion Center (ADFC) electronically transfers to Wallops the data segments required for processing at WFF. The data consists of three types of data files: 1) set of four Cal / Val (ra_data,ra_cal_data,eng_data,wvr_data) files; 2) Sensor Data Record (SDR) file; 3) Navy Geophysical Data Record (NGDR) file.

Examples of Cal / Val data segments are:

eng_data03122_03_15_45.dat
ra_data03122-03_15_45.dat
ra_cal_data03122_03_15_45.dat
wvr_data03122_03_15_45.dat

1.3 Data Flow

GFO altimeter data are regularly pushed to WFF from the NAVY Altimeter Data Fusion Center (ADFC). The automated File Transfer System (FTS) at WFF, documented in Appendix F, handles the distribution of the data based on a number of configuration scripts, examples of which are contained in Appendix G. Once ingested, a number of processes are executed to produce summary reports, data trends, and stores averaged data in the local database management system (DBMS) for trend analysis.